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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,636	09/19/2003	Rebecca A. Kocot	5201-27000 03-0914	5055
7590 06/27/2007				
Leo Peters LSI Logic Corporation 1621 Barber Lane, MS D-106 Milpitas, CA 95035				
			EXAMINER KANG, INSUN	
			ART UNIT 2193	PAPER NUMBER
			MAIL DATE 06/27/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/664,636

Applicant(s)

KOCOT, REBECCA A.

Examiner

Insun Kang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 January 2004 and 19 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1/15/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. This action is responding to application papers filed on 1/15/2004 and 9/19/2003.
2. Claims 1-20 are pending in the application.

Drawings

3. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the handwritten figures are not clear. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 6-10, and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kwok et al. (US Patent 6,088,044) hereafter Kwok in view of DaSilva et al. (US Patent 6,493,868) hereafter DaSilva.

Per claim 8:

Kwok discloses a graphics data processing system (i.e. col. 5 lines 22-40); source code represented as a first sequence of instruction addresses (i.e. graphics application, col. 9, lines 28-40); a graphics rendering engine coupled to receive the first instruction addresses and produce a graphical user interface (GUI) window (i.e. col. 5 lines 40-62).

Kwok does not explicitly teach the graphical user interface window that includes a breakpoint field. However, DaSilva teaches using a breakpoint was known in the pertinent art, at the time applicant's invention was made, to examine a particular stage of a program (i.e. col. 2 lines 54-61). It would have been obvious for one having ordinary skill in the art to modify Kwok's disclosed system to incorporate the teachings of DaSilva. The modification would be obvious because one having ordinary skill in the art would be motivated to examine the program at a specific point (i.e. col. 2 lines 54-61).

Kwok further discloses: upon receiving user input via a pointing device selects a particular instruction address within the first sequence of instruction addresses shown in a particular stage of a processor pipeline (i.e. col. 4 lines 1-5); displays all instruction addresses within the first sequence of instruction address along with corresponding stages of the processor pipeline during a clock cycle in which the particular instruction address is within the particular stage (i.e. col. 4 lines 4-10); assigns a designator to at least one instruction address of the first sequence of instruction addresses to denote the designated instruction will proceed to a succeeding stage in the microprocessor pipeline during a clock cycle succeeding the clock cycle; assigns a non-designator to denote a non-designated instruction within the microprocessor pipeline (i.e. col. 4 lines 8-20); an instruction address field that, upon selection by a user via the pointing device, allows the user to move said another at least one instruction address (i.e. col. 5 lines 3-8);

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a scheduler that responds to the moved said another at least one instruction address to form a second sequence of instructions that has a higher instruction throughput in the processor pipeline than the first sequence of instructions (i.e. col. 4 lines 21-27).

Per claim 9:

Kwok further discloses:

- wherein the graphics rendering engine further displays all instructions within the first sequence of instructions and assigns a designator to a number of the instruction address of the second sequence of instructions that exceed a number of the at least one instruction address of the first sequence of instruction addresses (i.e. col. 6 lines 22-31).

Per claim 10:

Kwok further discloses:

- wherein the second sequence of instructions requires fewer clock cycles through the processor pipeline than the first sequence of instructions (i.e. col. 4 lines 8-14).

Per claim 14:

Kwok further discloses:

- wherein the processor pipeline is a pipeline of a superscalar processor where more than one instruction can exist within each stage of the pipeline (i.e. col. 3 lines 59-62).

Per claim 15:

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Kwok further discloses:

- wherein the user actuates a pointing device to select only one of the instruction addresses and, in response thereto, the window displays a designator over a stage number field bearing the stage name for all of the first sequence of instructions that will proceed to the next stage in the pipeline sequence (i.e. col. 6 lines 1-13).

Per claims 1, 2, 6, and 7, these claims are engine versions of the claims 8-10, 14, and 15 wherein all claim limitations also have been addressed and/or covered in cited areas as set forth the above.

Per claim 16, the claim is the method version of the claim 8 wherein all claim limitations also have been addressed and/or covered in cited areas as set forth the above.

Per claim 17:

Kwok further discloses:

- wherein said designating comprises receiving a signal from a stage debug register by a graphics rendering engine to denote the instruction addresses being designated will proceed to the next stage of the pipeline (i.e. col. 1 lines 39-50).

Per claim 18:

Kwok further discloses:

- wherein said designating comprises checking resources of a processor to determine if the instruction addresses will be allowed to proceed and, if so, sending a

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signal from a debug register that stores the checking outcome to designate the instruction addresses that have corresponding resources available to allow such instruction addresses to proceed (i.e. col. 12 lines 40-55).

6. Claims 4, 5, 12, 13, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kwok et al. (US Patent 6,088,044) hereafter Kwok in view of DaSilva et al. (US Patent 6,493,868) hereafter DaSilva, and further in view of Martinez et al. (Pg. Pub. 2003/0051228) hereafter Martinez.

Per claim 12:

Kwok and DaSilva do not explicitly teach that the designator is a color that highlights the stage attributable to the at least one instruction that will proceed to the succeeding stage. However, Martinez teaches such highlighting was known in the pertinent art, at the time applicant's invention was made, to alert a user of a specific spot (i.e. 0025). It would have been obvious for one having ordinary skill in the art to modify the system of Kwok and DaSilva to incorporate the teachings of Martinez. The modification would be obvious because one having ordinary skill in the art would be motivated to highlight a specific portion that needs attention (i.e. 0025).

Per claim 13:

Martinez further discloses:

- wherein the color differs depending on which stage is highlighted (i.e. 0025).

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Per claims 19 and 20, they are the method versions of claims 12 and 13, respectively, and are rejected for the same reasons set forth in connection with the rejection of claims 12 and 13 above.

Per claims 4 and 5, they are the engine versions of claims 12 and 13, respectively, and are rejected for the same reasons set forth in connection with the rejection of claims 12 and 13 above.

7. Claims 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kwok et al. (US Patent 6,088,044) hereafter Kwok in view of DaSilva et al. (US Patent 6,493,868) hereafter DaSilva, and further in view of Hill et al. (Pg. Pub. 2002/0130871) hereafter Hill.

Per claim 11:

Kwok and DaSilva do not explicitly teach that the window comprises a pop-up window rendered upon a computer display screen. However, Hill teaches such a pop-up window was known in the pertinent art, at the time applicant's invention was made, to display additional information without using a standard window (i.e. 0102). It would have been obvious for one having ordinary skill in the art to modify the system of Kwok and DaSilva to incorporate the teachings of Hill. The modification would be obvious because one having ordinary skill in the art would be motivated to display a pop-up window for additional information if desired.

Per claim 3, it is the engine version of claim 11, respectively, and is rejected for the same reasons set forth in connection with the rejection of claim 11 above.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Insun Kang whose telephone number is 571-272-3724.

The examiner can normally be reached on M-R 6:30-5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MENG AI AN can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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